UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte: JACK STACHURSKI and ALAN V. MCCREE

Appeal No. 2006-1108
Application No. 09/668,396

ON BRIEF

Before Thomas, Krass and MacDonald, **Administrative Patent Judges**.

Krass, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-4.

The invention pertains to hybrid speech coding, best illustrated by reference to exemplary independent claim 1, reproduced as follows:

Claim 1

A hybrid speech encoder, comprising

(a) a linear prediction, pitch, and, voicing analyzer;

(b) a parametric encoder coupled to said analyzer,

(c) a waveform encoder coupled to said analyzer; and

(d) wherein said waveform encoder includes a zero-phase equalization filter.

The examiner relies on the following references:

Davis	4,230,906	Oct. 28, 1980
Honda et al. (Honda)	4,850,022	Jul. 18, 1989
Gersho et al. (Gersho)	6,233,550	May 15, 2001 (filed Aug. 28, 1998)

Claims 1-4 stand rejected under 35 U.S.C. §103. As evidence of obviousness, the examiner offers Gersho in view of Honda with regard to claims 1, 2, and 4, adding Davis to this combination with regard to claim 3.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the

factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc. , 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made, but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR §41.67(c)(1)(vii)].

Since appellants do not argue any of the claims separately from the others, all claims will stand or fall together.

We focus on independent claim 1.

The examiner applies Gersho as being directed to a "hybrid speech encoder (referring to the title of the Gersho patent), and having a linear prediction (14 in Gersho's Figure 4A), pitch, and voicing analyzer (18, 44, 46 in Gersho's Figure 4A). The examiner also asserts that Gersho teaches the claimed parametric and waveform encoders coupled to the analyzer and this is not disputed by appellants. (Ostensibly, these encoders are taught at elements 28, 30 and/or 32 of Figure 4A of Gersho).

The examiner asserts that Gersho only fails to teach that the waveform encoder "includes a zero-phase equalization filter." For this, the examiner turns to Honda, indicating column 1, lines 20-27, and column 3, lines 27-33, as reading on the feature of including a zero-phase equalization filter in the waveform encoder.

The examiner concludes that it would have been obvious to apply the method of Honda to the method of Gersho "...so as to process all parameters of speech without the complexities of alternatively associating low bit-rate waveform segments" (answer-page 8, last line, to page 9, line 1).

It is appellants' position that the artisan would not have been led to a further adjustment such as by a zero-phase filtering taught by Honda, in Gersho, because Gersho already accounts

for the phase discontinuity arising from switching between the waveform coder and the harmonic coder. Therefore, argue appellants, there is no suggestion to replace the phase discontinuity approach of Gersho with a phase equalization filtering as in Honda, especially since Honda is not directed to hybrid coding (see page 3 of the brief).

We have reviewed the evidence before us, including, inter alia, the disclosure of the references and the arguments of appellants and the examiner, and we conclude therefrom that the examiner has established a prima facie case of obviousness with regard to the instant claimed subject matter which has not been successfully rebutted by appellants.

Accordingly, we will sustain the rejection of claims 1-4 under 35 U.S.C. §103.

We are not convinced by appellants' argument that Honda is not directed to hybrid coding, because the examiner relied on the primary reference to Gersho for this teaching. Honda's teaching of employing a zero-phase equalization filter in a waveform encoder is not limited to non-hybrid coding systems. The hybrid coding system of Gersho has a parametric encoder and a wavefrom encoder, while the system of Honda basically is concerned with a waveform encoder, disclosing how certain advantages are to be gained by applying a zero-phase equalization filter to a waveform encoder. Therefore, the artisan would have recognized that in applying the lessons learned from Honda, one would apply the zero-phase equalization filter only to the waveform encoder portion of hybrid coders such as Gersho's system.

While Gersho may already account for the phase discontinuity arising from switching between the waveform coder and the harmonic coder, Honda provides a teaching to the artisan to provide for a zero-phase equalization filter in the waveform encoder, even if it is not for the same reason as intended by appellants. Once this modification, as clearly suggested by Honda, is made to Gersho (i.e., to provide for a zero-phase equalization filter in the waveform encoder), the instant claimed subject matter is established. We would further note that the claims do not specify that it is the zero-phase equalization filter in the waveform encoder that provides for compensation for a phase discontinuity arising from switching between the waveform coder and the harmonic coder. Therefore, to whatever extent appellants' argument that Gersho already accounts for the phase discontinuity is valid, it is irrelevant to the instant claimed subject matter.

All that needs to be shown is that it would have been obvious to have provided for a zero-phase equalization filter in the waveform encoder and, in our view, the examiner has shown this.

The examiner's decision rejecting claims 1-4 under 35 U.S.C. §103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under § 37 CFR 1.136 (a)(1)(iv).

AFFIRMED

JAMES D. THOMAS)
Administrative Patent Judge)
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ERROL A. KRASS) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
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ALLEN R. MACDONALD)
Administrative Patent Judge)

EAK/dpv

Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, Texas 75265